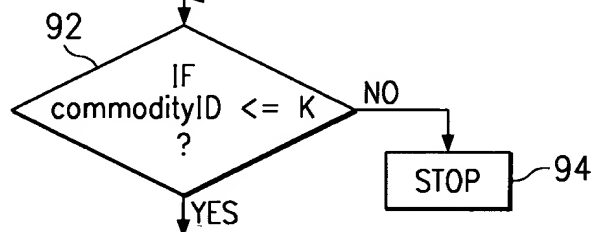
*Fig. 5*



90

INITIALIZE

1. CREATE A DIRECTED GRAPH OF THE COMMUNICATIONS NETWORK
2. CREATE A LIST OF COMMODITIES FROM THE LIST OF TRAFFIC TRUNKS. FOR EACH SET INGRESS AND EGRESS TO DEMAND AND SUPPLY NODES IN THE DIRECTED GRAPH SET THE FLOW UNITS OF THE DEMAND-SUPPLY PAIR = NUMBER OF TRUNKS BETWEEN THE INGRESS-EGRESS PAIR
3. LET  $K$  = NUMBER OF COMMODITIES
4. SET commodityID = 1



SET ARC CAPACITY

- 96
1. SET  $\mu$  = BANDWIDTH OF THE TRAFFIC PAIR IDENTIFIED BY commodityID
  2. FOR EACH LINK  $l$ 
    - SET  $\beta$  = TOTAL BANDWIDTH OF  $l$
    - SET  $\lambda$  = LOAD ON LINK  $l$
    - SET  $c = \lfloor (\beta - \lambda) / \mu \rfloor$
    - SET THE CAPACITY OF THE ARC(S) REPRESENTING  $l$  EQUAL TO  $c$

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USE NETWORK SIMPLEX ALGORITHM TO SOLVE THE MAXIMUM FLOW PROBLEM FOR THE COMMODITY

UPDATE LINK LOAD

- 100
1. SET  $\mu$  = BANDWIDTH OF THE TRAFFIC PAIR
  2. FOR EACH LINK  $l$ 
    - SET  $f$  = TOTAL FLOW ON THE ARCS REPRESENTING  $l$
    - SET  $\lambda$  = LOAD ON LINK  $l$
    - SET LOAD ON 1 =  $(\mu f + \lambda)$

102

MAP THE ROUTES TAKEN BY THE COMMODITY IN THE DIGRAPH ON THE TRAFFIC TRUNK OVER THE COMMUNICATION NETWORK

104

commodityID = commodityID + 1

Fig. 6